CLAIMS

What is claimed is:

1. A method comprising:

a. determining an initial efficient portfolio of financial products selected by an optimization process from an available set of financial products;

b. determining an alternate portfolio that is more diverse than the initial efficient portfolio by searching one or more dimensions of an error space proximate to or surrounding the initial efficient portfolio for a more diverse portfolio of financial products from the available set of financial products;

c. calculating a cost associated with the alternate portfolio by determining the difference between a characteristic of the initial efficient portfolio and a corresponding characteristic of the alternate portfolio; and

d. selecting the alternate portfolio if the cost is less than or equal to a predetermined diversity budget.

2. The method of claim 1, further comprising repeating b-d if no stopping conditions are met, wherein said selecting the alternate portfolio also considers the relative desirability between the alternate portfolio and the selected alternative portfolio from a previous iteration.

3. The method of claim 1, wherein the stopping conditions comprise one or more of the following:

the cost exceeds the predetermined diversity budget;

holding a measure of risk constant is no longer feasible;

a maximum exposure is less than a predetermined minimum exposure threshold;

exposure to a predetermined maximum number of mutual fund products has been achieved;

exposure to a predetermined minimum number of mutual fund products has been achieved;

a predetermined maximum number of iterations has been performed;

a predetermined minimum number of iterations has been performed;

a predetermined maximum number of alternate portfolios has been considered; and

a predetermined minimum number of alternate portfolios has been considered.

4. The method of claim 3, wherein the predetermined diversity budget is a default parameter.

5. The method of claim 3, wherein the predetermined diversity budget is a user-specified parameter.

6. The method of claim 1, wherein the determining an alternate portfolio further comprises imposing a maximum exposure constraint that limits holdings in any individual financial product of the available set of financial products.

7. The method of claim 1, wherein the predetermined diversity budget is based at least in part upon a user-specified utility function.

8. The method of claim 1, wherein the predetermined diversity budget is based at least in part upon a level of investment risk specified by the user.

9. The method of claim 1, wherein the characteristic comprises expected return.

10. The method of claim 1, wherein the characteristic comprises risk.

11. The method of claim 1, wherein the error space is defined in terms of one or more of expected return, risk, and utility.

12. The method of claim 1, wherein searching the one or more dimensions of an error space comprises evaluating portfolios having substantially the same level of risk as the initial portfolio but having lower expected returns.

13. The method of claim 1, wherein searching one or more dimensions of an error space comprises evaluating portfolios having approximately the same expected returns as the initial portfolio but having a higher level of risk.

14. The method of claim 1, wherein searching one or more dimensions of an error space comprises evaluating portfolios with higher diversity levels, but with utility levels which do not fall below a predetermined utility floor defined by a utility budget.

15. A method comprising:

a. determining an initial efficient portfolio of mutual fund products from an available set of mutual fund products;

b. generating a more diversified portfolio than the initial efficient portfolio from the available set of mutual fund products without violating a maximum exposure constraint;

c. measuring a cost associated with the more diversified portfolio by comparing a first expected return associated with the initial efficient portfolio with a second expected return associated with the more diversified portfolio; and

d. selecting the more diversified portfolio if the cost associated with the portfolio is less than or equal to a user specified diversity budget.

16. The method of claim 15, further comprising modifying the maximum exposure constraint and repeating b-d if one or more of the stopping conditions are not met.

17. The method of claim 15, wherein the stopping conditions comprise one or more of the following:

the cost exceeds the predetermined diversity budget;

holding a measure of risk constant is no longer feasible;

the maximum exposure constraint is less than a predetermined minimum exposure constraint;

exposure to a predetermined maximum number of mutual fund products has been achieved;

exposure to a predetermined minimum number of mutual fund products has been achieved;

a predetermined maximum number of iterations has been performed;

a predetermined minimum number of iterations has been performed;

a predetermined maximum number of alternate portfolios has been considered;

a predetermined minimum number of alternate portfolios has been considered; and

a specified period of time has expired.

18. The method of claim 15, wherein the maximum exposure constraint represents a maximum exposure to any individual mutual fund in the available set of mutual funds in terms of a percentage value of the more diversified portfolio as a whole.

19. The method of claim 15, wherein the maximum exposure constraint represents a maximum number of mutual funds that may be included in the more diversified portfolio.

20. The method of claim 15, wherein the maximum exposure constraint represents a maximum proportion of the more diversified portfolio that may be invested in any individual mutual fund of the more diversified portfolio.

21. The method of claim 15, wherein the user specified diversity budget is specified in basis points.

22. The method of claim 15, wherein the generating a more diversified portfolio comprises searching an error space proximate to or surrounding the initial efficient portfolio.

23. The method of claim 22, wherein the generating a more diversified portfolio comprises randomly selecting a portfolio within the error space..

24. A method comprising:

determining an initial portfolio of financial products from an available set of financial products, wherein the available set of financial products comprise one or more of mutual funds and stocks;

determining one or more alternate portfolios that are more diverse than the initial portfolio;

measuring a cost associated with achieving diversity by comparing one or more characteristics of the initial portfolio and the one or more alternate portfolios; and

selecting a portfolio of the one or more alternate portfolios having an associated cost that is less than or equal to a predetermined diversity budget.

25. The method of claim 24, wherein the cost is defined in terms of expected return, and wherein the step of measuring a cost associated with achieving diversity comprises determining a difference between an expected return associated with

the initial portfolio and expected returns associated with the one or more alternate portfolios.

26. The method of claim 24, wherein the predetermined diversity budget comprises an annual standard deviation between approximately 0 and .01.

27. A method comprising:

determining an initial portfolio and a plurality of more diversified portfolios of financial products from an available set of financial products;

determining a cost associated with each of the plurality of more diversified portfolios, wherein the cost is measured in terms of one or more of expected returns, risk, and utility; and

selecting the most diversified portfolio of the more diversified portfolios having an associated cost that is less than or equal to a predetermined diversity budget.

28. The method of claim 27, wherein the cost is defined in terms of risk, and wherein the step of measuring a cost associated with achieving diversity comprises determining a difference between the risk associated with the initial portfolio and risks associated with the one or more diversified portfolios.

29. The method of claim 27, wherein the predetermined diversity budget is a user specified parameter.

30. A method comprising the steps of:

a step for determining an initial portfolio of financial products from an available set of financial products;

a step for determining one or more alternate portfolios of financial products from the available set of financial products that are more diverse than the initial portfolio;

a step for measuring a cost associated with achieving diversity based upon one or more characteristics of the initial portfolio and the one or more alternate portfolios; and

a step for selecting a portfolio of the one or more alternate portfolios having an associated cost of achieving diversity that is less than or equal to a predetermined diversity budget.

31. The method of claim 30, wherein the step for determining one or more alternate portfolios further comprises a step for imposing a maximum exposure constraint that limits holdings in any individual financial product of the available set of financial products to a lesser percentage than the maximum exposure constraint.

32. An apparatus comprising:

a portfolio optimization means for simulating portfolio return scenarios for one or more portfolios including combinations of financial products from an available set of financial products; and

a diversification processing means comprising:

a means for determining an initial portfolio and a plurality of more diversified portfolios from an available set of financial products;

a means for determining a cost associated with each of the plurality of more diversified portfolios; and

a means for selecting the most diverse portfolio of the more diversified portfolios having an associated cost that is less than or equal to a predetermined diversity budget.

33. The apparatus of claim 32, wherein the cost is defined in terms of a utility, and wherein the means for determining a cost associated with each of the plurality of more diversified portfolios comprises a means for determining a difference between a first utility associated with the initial portfolio and a second utility associated with the plurality of more diversified portfolios.

34. A method comprising:

a. determining an initial efficient portfolio of financial products selected by an optimization process from an available set of financial products;

b. determining an alternate portfolio by searching one or more dimensions of an error space proximate to or surrounding the initial efficient portfolio for a portfolio of financial products from the available set of financial products having a predetermined diversity level relative to the initial efficient portfolio;

c. calculating a cost associated with the alternate portfolio by comparing the difference between a characteristic of the initial efficient portfolio and a corresponding characteristic of the alternate portfolio; and

d. selecting the alternate portfolio if the cost is less than or equal to a predetermined diversity budget.

35. The method of claim 34, wherein the predetermined diversity level comprises a higher level of diversity than the initial efficient portfolio.

36. The method of claim 34, wherein the predetermined diversity level comprises a lower level of diversity than the initial efficient portfolio.

37. The method of claim 34, wherein the stopping conditions comprise one or more of the following:

the cost exceeds the predetermined diversity budget;

holding a measure of risk constant is no longer feasible;

a predetermined maximum number of iterations has been performed;

a predetermined minimum number of iterations has been performed;

a predetermined maximum number of alternate portfolios has been considered;

a predetermined minimum number of alternate portfolios has been considered;

the alternate portfolio comprises a minimum number of financial products from the available set of financial products and the cost is less than or equal to the predetermined diversity budget.

38. The method of claim 34, wherein the error space is defined in terms of one or more of expected return, risk, and utility.

39. The method of claim 34, wherein searching the one or more dimensions of an error space comprises evaluating portfolios having substantially the same level of risk as the initial portfolio but having lower expected returns.

40. The method of claim 34, wherein searching one or more dimensions of an error space comprises evaluating portfolios having approximately the same expected returns as the initial portfolio but having a higher level of risk.

41. The method of claim 34, wherein searching one or more dimensions of an error space comprises evaluating portfolios with higher diversity levels, but with utility levels which do not fall below a predetermined utility floor defined by a utility budget.